

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**APPLICANT:** Stefan HÖRETH

**FILED:** Herewith

**FOR:** METHOD AND APPARATUS FOR DETERMINING THE MINIMUM OR  
MAXIMUM SWITCHING ACTIVITY OF A DIGITAL CIRCUIT

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**CERTIFICATE OF EXPRESS MAILING**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as Express Mail No. EV 317952264 US in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria VA 22313-1450 on November 21, 2003.

By: Regina M. Edwards  
Regina M. Edwards

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Mail Stop PATENT APPLICATION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, Applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

**I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION**

The patents, publications or other information submitted for consideration by the Office are listed on PTO-1449, attached hereto.

**II. COPIES**

- a.   X   Submitted herewith is a legible copy of (i) each U.S and foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed.
- b.        Each of the patents, publications or other information listed on the attached PTO-1449 was previously cited by or submitted to the USPTO in connection with U.S.S.N.: , to which the subject application claims the benefit of the earlier filing date. As such, a copy of each is not included herewith pursuant to 37 C.F.R. § 1.97(d).

III. CONCISE EXPLANATION OF THE RELEVANCE

(check at least one box)

a. ☒ Except as may be indicated below in (b), all of the patents, publications or other information are in the English language or were cited in an English language Search Report, a copy of which is attached hereto (concise explanation not required).

b. ☐ A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:

☐ English translation for reference(s) \_\_\_\_\_.

☐ English abstract for reference(s):.

☐ English translation of search report/ official communication.

☐ Copy of PCT/EPO Search Report.

☐ Partial English translation for reference(s):.

c. ☐ The following additional information is provided for the Examiner's consideration:

☐ A copy of EPO Search Report.

☐ A copy of PCT Search Report.

☐ A copy of Official Communication from the \_\_\_\_\_ Patent Office.

☐ English translation of search report/ official communication.

**FEES**

IV. THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(b)

(check one box)

a. ☒ within three months of the filing date of a national application (37 C.F.R. § 1.97(b) (1)). No fee or certification is required.

b. ☐ within three months of the date of entry of the national stage as set forth in §1.491 in an international application (37 C.F.R. § 1.97(b) (2)). No fee or certification is required.

c. ☐ before the mailing date of a first Action on the merits (37 C.F.R. § 1.97(b) (3)). No fee or certification is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the certification under 37 C.F.R. § 1.97(e) below, or, if no certification has been made, charge our deposit account a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

V. THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(c):  
(check one box)

before the mailing date of a Final Office Action under 37 C.F.R. § 1.113 (See 37 C.F.R. § 1.97(c) (1)) or before the mailing date of a Notice of Allowance under 37 C.F.R. § 1.311 (See 37 C.F.R. § 1.97(c) (2)).

a. ☐ No certification; therefore, a fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

or

b. ☐ See the certification below. No fee is required.

VI. CERTIFICATION UNDER 37 C.F.R. § 1.97(e) (check only one box)

The undersigned hereby certifies that

a. ☐ each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the best of my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this statement.

c. ☐ Some of the items of information were cited in a communication from a foreign Patent Office. As to this information, the undersigned certifies that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the best of my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this statement.

VII. FFF PAYMENT (check one)

☐ Enclosed please find a check in the amount of \$180.00 for the above-indicated fee.


☐ Please charge Deposit Account No. 04-1105 in the amount of \$180.00 for the above-indicated fee.

☒ No fee is required.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule, with a petition if necessary, and charge the appropriate fee to Deposit Account No. 04-1105.

Respectfully submitted,

Date: November 21, 2003



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<b>Information Disclosure Statement</b>  <b>PTO - 1449</b>		Atty. Docket No:		Serial No.		
		60234 (45107)				
		Applicant(s): Stefan HÖRETH				
		Filing Date		Art Unit		
		Herewith		Not Yet Known		
<b>UNITED STATES PATENT DOCUMENTS</b>						
Exam. Initials	Ref. No.	Document Number	Date	Inventor(s)	Class	Filing Date
<b>FOREIGN PATENT DOCUMENTS</b>						
Exam. Initials	Ref. No.	Document Number	Date	Country or Office	Class	Translation
<b>OTHER DOCUMENTS (INCL. TITLE, AUTHOR, DATE, PAGES, ETC)</b>						
Exam. Initials	Ref. No.					
	CA	Satyanarayana J.J. et al, "Systematic Analysis of Bounds on Power Consumption in Pipelined and Non-Pipelined Multipliers", IEEE Computer Society Press, October 7, 1996, pages 492-499.				
	CB	Bobba S., et al. "Estimation of Maximum Switching Activity in Digital VLSI Circuits" IEEE August 3, 1997, pages 1130-1133.				
	CC	Bhanja S., et al. "Switching Activity Estimation of Large Circuits Using Multiple Bayesian Networks", Proceedings of the 15 <sup>th</sup> International Conference on VLSI Design. IEEE Computer Society pages 187-192.				
Examiner:				Date:		